CLAIMS

Having thus described the invention, what is claimed is:

1. A spring structure (14) having first and second ends, a length, a structure top and a structure bottom, and a structure height (H) therebetween, said spring structure comprising:

(a) first and second bands (36A, 36B) each having first and second ends, a band top, and a band bottom associated with the structure top and the structure bottom, said bands having respective lengths thereof, said first and second bands each having an outer surface (46) facing outwardly of said spring structure, and an inner surface, the inner surfaces facing each other and facing inwardly into said structure, said first and second bands defining a width (W1) of said spring structure between the outer surfaces (46); and

(b) springs (38) spaced along the length of said spring structure, said springs extending between and connected to said bands, and having spring lengths extending between the first and second bands, said springs having spring tops and spring bottoms, opposing spring sides, spring heights between the spring tops and the spring bottoms, spring widths (W) between the opposing spring sides, angles α being defined between the springs (38) and the inner surfaces of said bands (36), and angles β being defined between the band tops and the spring tops, ratio of the widths (W) of the springs to the heights of the springs being less than 1/1,

whereby, when a squeezing force is imposed on said spring structure (14), squeezing said first and second bands (36) toward each other, said springs (38) resiliently deflect so as to accommodate reduced width (W1) of said spring structure (14) in preference to deflecting in a direction corresponding to height (H), such that the response of said spring structure (14) to such squeezing force is a preferential resilient change in magnitude of angle α relative to change in magnitude of angle β.

2. A spring structure as in Claim 1 wherein, when such squeezing force is imposed on said spring structure, change in magnitude of angle β is substantially zero.

3. A spring structure as in Claim 1 wherein the ratio of spring width to spring height is no more than 0.8/1.

4. A spring structure as in Claim 1 wherein the ratio of spring width to spring height is about 0.15/1 to about 0.7/1.

5. A spring structure as in Claim 1 wherein the ratio of spring width to spring height is about 0.2/1 to about 0.5/1.

6. A spring structure as in Claim 1 wherein the ratio of spring width to spring height is about 0.25/1 to about 0.35/1.

7. A spring structure as in Claim 1 wherein said springs are arranged in groups of at least two springs along said bands.

8. A spring structure as in Claim 1 wherein said springs are arranged in groups of at least three springs along said bands.

9. A spring structure as in Claim 1 wherein said springs comprise folded springs.

10. A spring structure as in Claim 1 wherein the compositions of said bands are selected from the group consisting of titanium, titanium alloy, and stainless steel.

11. A spring structure as in Claim 1 wherein said springs comprise substantially straight line compression springs.

12. A spring structure as in Claim 1, said springs comprising (i) at least three groups of springs wherein each group comprises at least two springs, and wherein spacing between the springs in a group is less than spacing between the groups, or (ii) at least 6 individual springs substantially equally spaced from each other.

13. A spring structure as in Claim 1 wherein said first band (36A) has a first width (W3) and wherein said second band (36B) has a second width (W3) greater than the first width.

14. A spring structure as in Claim 1 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

15. A spring structure as in Claim 2 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

16. A spring structure as in Claim 4 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

17. A spring structure as in Claim 7 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

18. A spring structure as in Claim 15 wherein the plastic composition of said spring structure comprises one or more materials selected from the group consisting of polyetherimide copolymer, acetal copolymer, polyethersulfone, polyarylethersulfone, polycarbonate, ultra high molecular weight polyethylene, polyetheretherketone, and polyaryletherketone, and blends and mixtures of said materials.

19. A spring structure as in Claim 14 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

20. A spring structure as in Claim 1 wherein the compositions of said first and second bands comprise at least one of titanium, titanium alloy, and stainless steel.

21. A spring structure as in Claim 1, at least one of said bands comprising a movement-arresting protuberance extending outwardly therefrom.

22. A spring structure as in Claim 1, said bands comprising first and second protuberances extending from said bands and being effective, in combination with cooperating detents in a cooperating structure, and wherein said spring structure is otherwise confined with respect to such other cooperating structure, to arrest longitudinal movement of said spring structure along such other cooperating structure.

23. A spring structure as in Claim 1, said bands comprising first and second protuberances extending from said bands at or proximate the first ends of the bands, and third and fourth protuberances extending from said bands at or proximate the second ends of the bands, said first, second, third, and fourth protuberances collectively being effective, in combination with a cooperating detent in another cooperating structure, and wherein said spring structure is otherwise confined with respect to such other cooperating structure, to arrest longitudinal movement of said spring structure along such other cooperating structure.

24. A bone treatment plate assembly, comprising:

(a) a bone treatment plate (12), said bone treatment plate having a length, and comprising a top and a bottom, and a plurality of bone-fastener-receiving apertures, said bone treatment plate further comprising a thickness between the top and the bottom, a channel extending alongside respective ones of the apertures, said channel having a collective length, and a side wall (30), said side wall of the channel having an opening therein extending into a respective said one of the fastener-receiving apertures; and

(b) spring structure (14) in said channel, said spring structure having first and second ends, a length, a structure top and a structure bottom, and a structure height (H) therebetween, said spring structure further comprising

(i) first and second bands (36A, 36B) each having first and second ends, a band top, and a band bottom associated with the structure top and the structure bottom, said bands having respective lengths thereof, said first and second bands each having an outer surface (46) facing outwardly of said spring structure (14), and an inner surface, the inner surfaces facing each other and facing inwardly into said spring structure, said first and second bands defining a width (W1) of said spring

structure between the outer surfaces (46), and extending along the length of said channel in said bone treatment plate, and

(ii) springs (38) spaced along the length of said spring structure, said springs extending between and connected to said bands, and having spring lengths extending between the first and second bands, said springs having spring tops and spring bottoms, opposing spring sides, spring heights between the spring tops and the spring bottoms, spring widths (W) between the opposing spring sides, angles α being defined between the springs (38) and the inner surfaces of said bands (36), and angles β being defined between the band tops and the spring tops, said springs urging said spring structure into engagement with the side wall of the channel,

ratio of the widths (W) of the springs to the heights of the springs being less than 1/1,

whereby, when a squeezing force is imposed on said spring structure (14), squeezing said first and second bands (36) toward each other, sufficient to assemble said spring structure (14) to said bone treatment plate (12), said springs (38) resiliently deflect so as to accommodate reduced width (W1) of said spring structure (14) in preference to deflecting in a direction corresponding to height (H),

such that the response of said spring structure (14) to such squeezing force is a preferential resilient change in magnitude of angle α relative to change in magnitude of angle β.

25. A bone treatment plate as in Claim 24 wherein, when such squeezing force is imposed on said spring structure, change in magnitude of angle β is substantially zero.

26. A bone treatment plate assembly as in Claim 24 wherein the ratio of spring width to spring height is no more than 0.8/1.

27. A bone treatment plate assembly as in Claim 24 wherein the ratio of spring width to spring height is about 0.15/1 to about 0.7/1.

28. A bone treatment plate assembly as in Claim 24 wherein the ratio of spring width to spring height is about 0.2/1 to about 0.5/1.

29. A bone treatment plate assembly as in Claim 24 wherein the ratio of spring width to spring height is about 0.25/1 to about 0.35/1.

30. A bone treatment plate assembly as in Claim 24 wherein said springs are arranged in groups of at least two springs along said bands.

31. A bone treatment plate assembly as in Claim 24 wherein said springs are arranged in groups of at least three springs along said bands.

32. A bone treatment plate assembly as in Claim 24 wherein said springs are arranged individually along the length of said spring structure.

33. A bone treatment plate assembly as in Claim 24 wherein said springs comprise folded springs.

34. A bone treatment plate assembly as in Claim 24 wherein said first and second bands, in combination with said springs, define a unitary structure derived from a single unitary work piece.

35. A bone treatment plate assembly as in Claim 24 wherein said first and second bands extend along substantially the entirety of the length of the channel, said first and second bands collectively extending into and across portions of each of the bone-fastener-receiving apertures.

36. A bone treatment plate assembly as in Claim 24, said side wall of said channel comprising a first side wall, said channel further comprising a second side wall, said bone treatment plate further comprising first and second rows of said bone-fastener-receiving apertures extending along the length of said bone treatment plate, said channel extending along the length of said bone treatment plate, said channel further comprising a second side, first and second overhanging top walls of said channel extending inwardly from said side walls of said channel, said overhanging top walls being effective to restrain movement of said spring structure out of said channel through the top of said channel.

37. A bone treatment plate assembly as in Claim 36, said first and second elongate bands being urged by said spring structure against the respective first and second side walls of the channel, and thus across a portion of each respective aperture in the first and second rows.

38. A bone treatment plate assembly as in Claim 24 wherein, as a such bone fastener is driven, such bone fastener urges the respective said band to move, from a first position transversely of the length of said band, with corresponding flexing of said spring structure, from a first flexural condition, until such bone fastener moves past said band, whereupon said spring structure returns said band to a position wherein said band overlies and blocks the bone fastener and thereby inhibits withdrawal of the bone fastener past said band.

39. A bone treatment plate assembly as in Claim 24 wherein said bands are sufficiently small in cross-section, and are properly positioned over said apertures, and wherein said spring structure is sufficiently resilient to let a bone fastener pass below a respective said band, with transverse movement of said band, and without exceeding any flexural limit of said spring structure, such that said spring structure then resiliently returns said band to a blocking position over such bone fastener.

40. A bone treatment plate assembly as in Claim 24 wherein said springs comprise substantially straight line compression springs.

41. A bone treatment plate assembly as in Claim 24, said springs comprising (i) at least three groups of springs wherein each group comprises at least two springs, and wherein spacing between the springs in a group is less than spacing between the groups, or (ii) at least 6 individual springs substantially equally spaced from each other.

42. A bone treatment plate assembly as in Claim 24 wherein said first band (36A) has a first width (W3) and wherein said second band (36B) has a second width (W3) greater than the first width.

43. A bone treatment plate assembly as in Claim 42, said bone treatment plate (12) comprising a single line of said bone-fastener-receiving apertures (22) extending along the length of said plate, said second band (36B) comprising at least one protuberance (40) extending outwardly from the respective said outer surface (46) of said band, said first band (36A) being devoid of protuberances on the respective outer surface (46), said channel side wall (30) comprising first and second side walls, said first side wall having openings extending into said bone-fastener-receiving apertures, said second side wall not having openings extending into said bone-fastener-receiving apertures, said first side wall (30) comprising at least one detent (42) receiving said at least one protuberance, said second side wall being devoid of detents adapted to receive said at least one protuberance.

44. A bone treatment plate assembly as in Claim 24 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

45. A bone treatment plate assembly as in Claim 25 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

46. A bone treatment plate assembly as in Claim 27 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

47. A bone treatment plate assembly as in Claim 36 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

48. A bone treatment plate assembly as in Claim 44 wherein the plastic composition of said spring structure comprises one or more materials selected from the group consisting of polyetherimide copolymer, acetal copolymer, polyethersulfone, polyarylethersulfone, polycarbonate, ultra high molecular weight polyethylene, polyetheretherketone, and polyaryletherketone, and blends and mixtures of said materials.

49. A bone treatment plate assembly as in Claim 46 wherein the plastic composition of said spring structure comprises one or more materials selected from the group consisting of polyetherimide copolymer, acetal copolymer, polyethersulfone, polyarylethersulfone, polycarbonate, ultra high molecular weight polyethylene, polyetheretherketone, and polyaryletherketone, and blends and mixtures of said materials.

50. A bone treatment plate assembly as in Claim 24 wherein said channel is expressed intermittently along the length of said plate.

51. A bone treatment plate assembly as in Claim 27 wherein said channel is expressed intermittently along the length of said plate.

52. A bone treatment plate assembly as in Claim 30 wherein said channel is expressed intermittently along the length of said plate.

53. A bone treatment plate assembly as in Claim 24 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

54. A bone treatment plate assembly as in Claim 27 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

55. A bone treatment plate assembly as in Claim 30 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

56. A bone treatment plate assembly as in Claim 34 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

57. A bone treatment plate assembly as in Claim 24 wherein the compositions of said first and second bands comprise at least one of titanium, titanium alloy, and stainless steel.

58. A bone treatment plate assembly as in Claim 27 wherein the compositions of said first and second bands comprise at least one of titanium, titanium alloy, and stainless steel.

59. A bone treatment plate assembly as in Claim 30 wherein the compositions of said first and second bands comprise at least one of titanium, titanium alloy, and stainless steel.

60. A bone treatment plate assembly as in Claim 51 wherein the compositions of said first and second bands comprise at least one of titanium, titanium alloy, and stainless steel.

61. A bone treatment plate assembly as in Claim 24, said bone-fastener-receiving apertures being spaced along the length of said bone treatment plate, said channel being elongate and extending along the length of said bone treatment plate, said spring structure comprising a plurality of band-spring combinations, each comprising ones of said bands (36) and ones of said springs (38), positioned in said channel, said band-spring combinations being disposed lengthwise of each other, and disposed alongside respective ones of said apertures, spacers being positioned between respective adjacent ones of said band-spring combinations so as to inhibit substantial longitudinal movement of said band-spring combinations.

62. A bone treatment plate assembly as in Claim 61, said spacers being held in position in said channel by protuberances on ones of said bands and/or said spacers, which protuberances cooperate with detents in said channel.

63. A bone treatment plate assembly as in Claim 24, said channel comprising a plurality of walls, including said side wall, extending at least intermittently along the length of said channel, at least one of said bands comprising a protuberance, said walls of said channel collectively comprising at least one cooperating detent, configured and positioned to receive the protuberance on the respective said band, said protuberance and said detent thereby being effective to arrest longitudinal movement of said spring structure along the length of the channel as said spring structure is moved along said bone treatment plate.

64. A bone treatment plate assembly as in Claim 24, said channel comprising a plurality of walls, including said side wall, extending along the length of said channel, at least a first protuberance extending from said first band, at least a second protuberance extending from said second band, said walls of said channel collectively comprising at least first and second detents, configured and positioned to receive the protuberances on the first and second bands, the combination of the first and second protuberances and the first and second detents being effective to arrest longitudinal movement of said spring structure along the length of the channel as said spring structure is being assembled with said bone treatment plate.

65. A bone treatment plate assembly as in Claim 64 wherein said detent arrests longitudinal movement of said spring structure when the entirety of the length of said spring structure has been received into said channel.

66. A bone treatment plate assembly as in Claim 24, said channel comprising a plurality of walls, including said side wall, extending along the length of said channel, first and second protuberances extending from said bands on opposing sides of said spring structure and toward respective ones of said walls of said channel,

said walls of said channel comprising at least first and second detents, configured and positioned to receive the protuberances, the combination of the first and second protuberances and the first and second detents being effective to arrest longitudinal movement of said spring structure along the length of the channel.

67. A bone treatment plate assembly as in Claim 66, said first and second protuberances extending outwardly from the outer surfaces of said bands.

68. A bone treatment plate assembly as in Claim 67, said first and second protuberances being disposed at the first end of said spring structure.

69. A bone treatment plate assembly as in Claim 67, further comprising third and fourth protuberances at the second end of said spring structure, and cooperating third and fourth detents in said walls of said channel.

70. A bone treatment plate assembly as in Claim 63, said at least one protuberance and said at least one cooperating detent being collectively configured to arrest longitudinal movement of the respective said spring structure or band-spring combination in either of two opposing longitudinal directions.

71. A bone treatment plate assembly as in Claim 63, said at least one protuberance comprising a single protuberance and/or said at least one detent comprising a single detent.

72. A spring structure having first and second ends, a length, a structure top and a structure bottom, and a structure height (H) therebetween, said spring structure comprising:

(a) first and second bands (36A, 36B) each having first and second ends, a band top, and a band bottom associated with the structure top and the structure bottom, said bands having respective lengths thereof, said first and second bands each having an outer surface (46) facing outwardly of said spring structure, and an inner surface, the inner surfaces facing each other and facing inwardly into said structure, said first and second bands defining a width (W1) of said spring structure between the outer surfaces (46); and

(b) springs spaced along the length of said spring structure, said springs extending between and being connected to said bands, and having spring lengths extending between the first and second bands, said springs having spring tops and spring bottoms, opposing spring sides, spring heights between the spring tops and the spring bottoms, and spring widths (W) between the opposing spring sides,

said spring structure comprising at least one protuberance extending outwardly from a said outer surface of a respective one of said bands (36), said at least one protuberance being effective, in combination with cooperating at least one detent in a cooperating structure, and wherein said spring structure is otherwise confined with respect to such other cooperating structure, to arrest longitudinal movement of said spring structure along such other cooperating structure.

73. A spring structure as in Claim 72, said bands comprising first and second protuberances extending from said bands at or proximate the first ends of the bands, and third and fourth protuberances extending from said bands at or proximate the second ends of the bands, said first, second, third, and fourth protuberances collectively being effective, in combination with cooperating detents in another cooperating structure, and wherein said spring structure is otherwise confined with respect to such other cooperating structure, to arrest longitudinal movement of said spring structure along such other cooperating structure.

74. A spring structure as in Claim 72, angles α being defined between the springs and the inner surfaces of said bands, and angles β being defined between the band tops and the spring tops, ratio of the widths (W) of the springs to the heights of the springs being less than 1/1, whereby response of said spring structure to a squeezing force, squeezing said bands toward each other, is a preferential change in magnitude of angle α relative to change in magnitude of angle β.

75. A spring structure as in Claim 72 wherein the ratio of spring width to spring height is about 0.15/1 to about 0.7/1.

76. A spring structure as in Claim 74 wherein the ratio of spring width to spring height is about 0.2/1 to about 0.5/1.

77. A spring structure as in Claim 72 wherein said springs are arranged in groups of at least two springs along said bands.

78. A spring structure as in Claim 72 wherein the compositions of said bands are selected from the group consisting of titanium, titanium alloy, and stainless steel.

79. A spring structure as in Claim 72 wherein said springs comprise substantially straight line compression springs.

80. A spring structure as in Claim 72, said springs comprising (i) at least three groups of springs wherein each group comprises at least two springs, and wherein spacing between the springs in a group is less than spacing between the groups, or (ii) at least 6 individual springs substantially equally spaced from each other.

81. A spring structure as in Claim 72 wherein said first band (36A) has a first width (W3) and wherein said second band (36B) has a second width (W3) greater than the first width.

82. A spring structure as in Claim 72 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

83. A spring structure as in Claim 82 wherein the plastic composition of said spring structure comprises one or more materials selected from the group consisting of polyetherimide copolymer, acetal copolymer, polyethersulfone, polyarylethersulfone, polycarbonate, ultra high molecular weight polyethylene, polyetheretherketone, and polyaryletherketone, and blends and mixtures of said materials.

84. A spring structure as in Claim 72 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.

85. A bone treatment plate assembly, comprising:

(a) a bone treatment plate (12), said bone treatment plate comprising a top and a bottom, and a plurality of bone-fastener-receiving apertures, said bone treatment plate further comprising a thickness between the top and the bottom, a channel extending alongside respective ones of the apertures, said channel having a collective length, and having walls extending at least intermittently along the length of the channel; and

(b) spring structure (14) in said channel, said spring structure (14) having first and second ends, a length, a structure top and a structure bottom, and a structure height (H) therebetween, said spring structure further comprising

(i) first and second bands (36) each having first and second ends, a band top, and a band bottom associated with the structure top and the structure bottom, said bands having respective lengths thereof, said first and second bands each having an outer surface (46) facing outwardly of said spring structure, and an inner surface, the inner surfaces facing each other and facing inwardly into said spring structure, said first and second bands defining a width (W1) of said spring structure between the outer surfaces (46), and extending along the length of said channel in said bone treatment plate, and

(ii) springs (38) spaced along the length of said spring structure, said springs extending between, and being connected to said bands, and having spring lengths extending between the first and second bands, said springs having spring tops and spring bottoms, opposing spring sides, spring heights between the spring tops and the spring bottoms, spring widths (W) between the opposing spring sides,

at least one of said bands comprising a protuberance, said walls of said channel collectively comprising at least one detent configured and positioned to receive the protuberance on the respective said band, the combination of said at least one protuberance and said at least one detent being effective to arrest longitudinal movement of said spring structure along the length of the channel as said spring structure is advanced along said channel.

86. A bone treatment plate assembly as in Claim 85, said bands comprising first and second protuberances extending from said bands at or proximate the first ends of the bands, and third and fourth protuberances extending from said bands at or proximate the second ends of the bands, said first, second, third, and fourth protuberances collectively being effective, in combination with said walls of said

plate (12), and wherein said spring structure is otherwise confined with respect to the channel, to arrest longitudinal movement of said spring structure with respect to the channel.

87. A bone treatment plate assembly as in Claim 85, angles α being defined between the springs (38) and the inner surfaces of said bands (36), and angles β being defined between the band tops and the spring tops, ratio of the widths (W) of the springs to the heights of the springs being less than 1/1, whereby response of said spring structure (14) to a squeezing force, squeezing said bands (36) toward each other, is a preferential change in magnitude of angle α relative to change in magnitude of angle β.

88. A bone treatment plate assembly as in Claim 87 wherein the ratio of spring width to spring height is about 0.15/1 to about 0.7/1.

89. A bone treatment plate assembly as in Claim 85 wherein the ratio of spring width to spring height is about 0.2/1 to about 0.5/1.

90. A bone treatment plate assembly as in Claim 85 wherein said springs are arranged in groups of at least two springs along said bands.

91. A bone treatment plate assembly as in Claim 85 wherein the compositions of said bands are selected from the group consisting of titanium, titanium alloy, and stainless steel.

92. A bone treatment plate assembly as in Claim 85 wherein said springs comprise substantially straight line compression springs.

93. A bone treatment plate assembly as in Claim 85, said springs comprising (i) at least three groups of springs wherein each group comprises at least two springs, and wherein spacing between the springs in a group is less than spacing between the groups, or (ii) at least 6 individual springs substantially equally spaced from each other.

94. A bone treatment plate assembly as in Claim 85 wherein said first band (36A) has a first width (W3) and wherein said second band (36B) has a second width (W3) greater than the first width.

95. A bone treatment plate assembly as in Claim 85 wherein said spring structure comprises plastic composition which is safe for use in living human or animal bodies, as an implantable plastic, and wherein said spring structure has suitable strength, rigidity, and deflection properties to block screw withdrawal in a routine implant use environment.

96. A bone treatment plate assembly as in Claim 95 wherein the plastic composition of said spring structure comprises one or more materials selected from the group consisting of polyetherimide copolymer, acetal copolymer, polyethersulfone, polyarylethersulfone, polycarbonate, ultra high molecular weight polyethylene, polyetheretherketone, and polyaryletherketone, and blends and mixtures of said materials.

97. A bone treatment plate assembly as in Claim 85 wherein the composition of said spring structure comprises at least one of titanium, titanium alloy, and stainless steel.